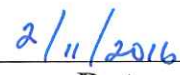


Hazel Hill Lake

Ten-Year Area Management Plan FY 2016-2025




Wildlife Division Chief


Date

Hazel Hill Lake Area Management Plan Approval Page

PLANNING TEAM

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Larry Rizzo, Natural History Biologist

KANSAS CITY REGION

RCT Chair


Signature

2-1-2016
Date

WILDLIFE DIVISION

Wildlife Management Chief


Signature

2/9/16
Date

OVERVIEW

- **Official Area Name:** Hazel Hill Lake, #8321
- **Year of Initial Acquisition:** 1983
- **Acreage:** 502 acres
- **County:** Johnson
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Authority:** Wildlife
- **Statements of Purpose:**

A. Strategic Direction

Maintain existing habitat communities and develop additional wildlife habitat through active management. Manage forests, woodlands, grasslands, crop fields, and old fields to enhance a variety of natural communities. Maintain riparian zones and watersheds to assure water quality. Provide public recreational and educational opportunities compatible with the area's resources.

B. Desired Future Condition

The desired future condition of Hazel Hill Lake is high quality forest and woodland communities with interspersed open lands, i.e., native warm-season grass/forb communities, cropland and glades. Riparian zones and lake watersheds will be managed to provide optimal protection for the aquatic resources.

C. Federal Aid Statement

N/A

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

- A. **Priority Areas:** None
- B. **Natural Areas:** None

II. Important Natural Features and Resources

- A. **Species of Concern:** Species of conservation concern are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the Natural History Biologist.
- B. **Caves:** None
- C. **Springs:** None

III. Existing Infrastructure

- 3 parking lots (1 Americans with Disabilities Act (ADA) accessible)
- 1 lake dam and spillway
- 1 concrete boat ramp

- 1 fishing dock (ADA accessible)
- 1 privy at fishing lake (ADA accessible)
- 1 fishing lake (Hazel Hill, 71 acres)
- 8 fishless ponds (1.5 acres)

IV. Area Restrictions or Limitations

- A. Deed Restrictions or Ownership Considerations:** None
- B. Federal Interest:** Federal funds may be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.
- C. Easements:** Johnson County Water District #1
- D. Cultural Resource Findings:** Yes, records kept with Missouri Department of Conservation (Department) Environmental Compliance Specialist. Managers should follow Best Management Practices for Cultural Resources found in the Department Resource Policy Manual.
- E. Hazards and Hazardous Materials:** None
- F. Endangered Species:** None
- G. Boundary Issues:** None

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Challenges and Opportunities:

- 1) Open land habitat consists of crop fields, cool- and warm-season grass/forb plantings, and old fields. There are approximately 378 acres of open land habitat on this area. Interspersion within the wooded component and small field size provide ample edge for a variety of wildlife species. All open land units lie well within the watershed of the lake such that any management activity to set back succession must be conducted in a manner that does not result in increased soil erosion into the lake.
- 2) Old field and grassland habitats comprise approximately 323 acres of the area, offering management opportunity through the Agricultural Crop Permittee Program. Controlling invasive species is a continuing challenge.

Management Objective 1: Maintain healthy trees and woodlands with management emphasis on wildlife habitat and improved forest health and diversity.

Strategy 1: Manage the area to benefit species of conservation concern and woodland and forest communities. Management actions include, but are not limited to, conducting forest stand improvement, prescribed burns, snag retention and a multi-layered canopy with small gaps. Conduct management actions in accordance with the forest management plan developed based on the forest inventory to be conducted in FY2020. (Forestry)

Strategy 2: Utilize Best Management Practices during forest management as described in the Department's manuals: *Missouri Watershed Protection Practice manual* (Missouri Department of Conservation, 2014b) and *Missouri Forest Management Guidelines Voluntary Recommendations for Well-Managed Forests* (Missouri Department of Conservation, 2014a). (Forestry)

Management Objective 2: Establish or maintain a forested corridor along all streams on the area.

Strategy 1: Maintain a forested corridor through natural regeneration or planting. A minimum 200 foot wide corridor should be maintained, where not limited by area boundary. (Forestry)

Strategy 2: All management activities should follow the *Watershed and Stream Management Guidelines for Lands and Waters Managed by the Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Forestry)

Management Objective 3: Develop and maintain grasslands.

Strategy 1: Use best management practices to establish prairie reconstruction habitat on appropriate sites. (Wildlife)

Strategy 2: Convert existing fescue to wildlife-friendly cool-season grasses. (Wildlife)

Management Objective 4: Maintain old field habitat at early successional stage.

Strategy 1: Use best management practices to retard succession. (Wildlife)

Management Objective 5: Control invasive species. (Wildlife, Forestry, Fisheries)

Strategy 1: Monitor annually for invasive and exotic species. (Wildlife, Forestry, Fisheries)

Strategy 2: Use best management practices to control and/or eradicate invasive species. Reduce invasive and exotic species through management techniques including but not limited to chemical applications and mechanical thinning. (Wildlife, Forestry, Fisheries)

VI. Aquatic Resource Management Considerations

Challenges and Opportunities:

- 1) Hazel Hill Lake was purchased to construct a lake and provide fishing opportunities in Johnson County. The 71-acre Hazel Hill Lake was completed in 1988 and opened to fishing in May 1992. A drawdown structure is present in the 71-acre lake, providing additional fish and wildlife management options. There are nine other ponds on the area, ranging in size from 0.1 to 0.3 acres. All of these small ponds are not conducive to fisheries management due to insufficient depth, and excessive growth of aquatic vegetation. These smaller ponds are currently used as water holes for wildlife.

Management Objective 1: Maintain good water quality in the 71-acre lake.

Strategy 1: Manage the publically owned portion of the watershed of Hazel Hill Lake in a manner that minimizes adverse effects of nutrient and soil runoff to the lake through proper agricultural practices and buffers. (Fisheries and Wildlife)

Strategy 2: Monitor native aquatic vegetation in the lake and along the shoreline and maintain at levels conducive to good water quality. (Fisheries)

Strategy 3: Work with adjoining landowners to encourage land use practices that minimize nutrient and soil runoff to the watershed of Hazel Hill Lake. (Fisheries and Private Lands)

Management Objective 2: Maintain healthy aquatic habitat in area impoundments.

Strategy 1: Control invasive species, such as American lotus, so that diverse aquatic plant communities are allowed to exist. (Fisheries)

Strategy 2: Improve diversity of native aquatic plants by establishing beneficial plants in areas where they are lacking. (Fisheries)

Management Objective 3: Work with area personnel to manage selected small ponds as fishless ponds to benefit select wildlife species.

Strategy 1: Eradicate low-quality fish populations from some shallow ponds to benefit reptiles and amphibians. (Fisheries)

Management Objective 4: Maintain high-quality angling opportunities in the lake for area users.

Strategy 1: Monitor fish populations, as needed. (Fisheries)

Strategy 2: Adjust fishing regulations, as needed, to maintain fish populations at desirable levels. (Fisheries)

VII. Public Use Management Considerations

Challenges and Opportunities:

- 1) Hazel Hill Lake provides a variety of fishing, hunting and wildlife viewing opportunities year-round (i.e., including waterfowl, dove, deer, rabbit and quail hunting/viewing). The area receives adequate pressure from hunters and anglers during every season. Fishing pressure is highest during the summer months, but is prevalent year-round.
- 2) Hazel Hill Lake attracts a high number of visitors. The area should be kept inviting to the public.
- 3) Hazel Hill Lake has many opportunities for outreach and education. The area offers easy bank fishing access from the main parking lot and floating fishing dock. This area has the potential to offer fishing clinics for young/inexperienced anglers.

Management Objective 1: Maintain healthy wildlife populations and habitat on the area to ensure hunting opportunities.

Strategy 1: Provide adequate food and cover for wildlife species to maintain a healthy sustainable population of wildlife on the area. (Wildlife)

Strategy 2: Provide dove hunting opportunities utilizing the Agricultural Crop Permittee System where appropriate. (Wildlife)

Strategy 3: Follow Best Management Practices for all terrestrial management activities. (Wildlife, Forestry, Fisheries)

Management Objective 2: Ensure infrastructure is maintained and kept clean and presentable to encourage public use and cooperation.

Strategy 1: Maintain all signs, roads, roadsides, fishing structures, parking lots, and privies in a well groomed and well maintained manner. (Wildlife)

Management Objective 3: Encourage the use of Hazel Hill Lake as a site for outreach and education classes/clinics.

Strategy 1: Host a variety of hunting and fishing clinics on the area to serve the community and encourage public involvement in outdoor activities. (Outreach and Education, Wildlife)

Strategy 2: Maintain area infrastructure, as appropriate, to allow easy and safe public access to the lake. (Fisheries)

Strategy 3: Control aquatic vegetation, as needed, to maintain public access to the fishery. (Fisheries)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Ensure all easements are properly documented and filed.
- 2) Evaluate land offered as additions to these areas.
- 3) Maintain existing infrastructure.
- 4) Annually assess the maintenance needs for the fishing docks, jetty, platforms, parking lot, dams and service roads.

Management Objective 1: Make sure all easements are properly filed.

Strategy 1: Use Geographic Information System to ensure that any easements are properly located (Wildlife).

Management Objective 2: Maintain infrastructure at current levels.

Strategy 1: Maintain infrastructure in accordance with Department guidelines (Wildlife)

Management Objective 3: Facilitate a good working relationship with neighboring landowners.

Strategy 1: Promote habitat management on neighboring landowner properties. (Private Land Services)

Strategy 2: Work with neighbors to minimize any boundary, trespass, or other issues affecting Hazel Hill Lake CA or private property. (Wildlife)

Lands Proposed for Acquisition:

When available, adjacent land may be considered for acquisition from willing sellers. Tracts that improve area access, provide public use opportunities, contain unique natural communities and/or species of conservation concern, or meet other Department priorities, as identified in the annual Department land acquisition priorities, may be considered. (Wildlife)

MANAGEMENT TIMETABLE

All strategies are considered as on-going unless listed in the following table.

	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Terrestrial Resource Management										
<i>Objective 1</i>										
Strategy 1					X					
Aquatic Resource Management										
<i>Objective 2</i>										
Strategy 2	X		X							
<i>Objective 3</i>										
Strategy 1		X								

APPENDICES

Area Background:

The Department purchased this 502-acre area in 1984. The 71-acre lake was constructed 1987-88. The lake was filled and stocked with fish in 1989. The area is composed of cropland, old fields, native grass plantings and timbered areas, which together create habitat, food and cover for upland and forest wildlife. The area provides disabled-accessible fishing, hunting/viewing of a variety of wildlife species, a boat ramp, parking and privies. Vegetation is managed using prescribed fire, mowing and permitted cropping.

Current Land and Water Types:

Land/Water Type	Acres	% of Area
Old Field	173	35
Grassland	150	30
Ponds/Lake	72	14
Crop	55	11
Forest	52	10
Total	502	100

Public Input Summary:

The draft Hazel Hill Lake Area Management Plan was available for a public comment period September 1–30, 2015. The Missouri Department of Conservation received comments from 6 respondents (Appendix A). The Hazel Hill Lake Area Planning Team carefully reviewed and considered these ideas as they finalized this document. A brief summary of public input themes, including how they were incorporated or why they were not, can be found below. Rather than respond to each individual comment, comments are grouped into general themes and are addressed collectively.

Department responses to themes and issues identified through Hazel Hill Lake Area public comment period

Suggests clearing out locust trees along NW 201 Road.

Individual trees that present an obstacle or safety issue are routinely removed or trimmed in a timely manner. As noted in the plan, forested sites will be managed for both forest health and diversity.

Opposes bicycle use on this area.

Bicycle use on this area is restricted to public roadways. Used properly on public roads, bicycles present no more disturbance than other vehicular traffic.

Suggests adding a courtesy boat dock.

The issue of providing a courtesy dock at the lake will be considered through the normal budget process. If approved, a courtesy dock would be placed between the boat ramp and floating fishing dock so it does not interfere with bank fishing opportunities.

Suggests adding picnic tables.

Past experience shows an increase in vandalism when picnic tables are provided on unstaffed public areas. Enforcement has routine patrols, but staff cannot be on site around the clock.

Suggests developing additional gravel roads for wildlife viewing from vehicles for people with mobility disabilities.

This area receives moderate use from birders, hikers, and hunters. Additional roads within the area's interior would pose a potential conflict with permitted activities. The area has multiple access trails that provide foot access to areas not readily accessible by vehicles.

Suggests offering an imaginative fairy hunt for young children to get involved with nature along with an introduction to fishing.

The Department offers a free preschool curriculum called Nature Revealed, which is available to all public and private preschool teachers. The curriculum is designed to get children outdoors and in touch with nature. Many schools use conservation areas for their students' field trips. These areas are available to families and individuals as well; they can use the trails and surrounding fields and woodlands for hikes, birdwatching, or other nature related activities. The Department also offers a program called Discover Nature Fishing, offered at a variety of locations around the state, that includes four curriculum lessons, covering an array of topics related to fishing and hands-on fishing experiences.

Concerned with upkeep of cemetery on area.

The cemetery has historically been maintained by the Mt. Moriah Cemetery Association. Their volunteer efforts are much appreciated and encouraged. Department staff provide access to the cemetery via an unimproved trail that is serviced annually. Grass is mowed, tree limbs removed, and undesirable plants are controlled. Members of the public who volunteer to maintain a cemetery on Department managed land must obtain a Special Use Permit from the area manager to ensure that cultural resource best management practices are followed.

Concerned with recent vandalism of area signs. Suggests increased patrols by conservation agents.

As with any public use area, Hazel Hill Lake does receive some vandalism, with the recent painting of the area's welcome sign as a prime example. The area is patrolled by Department Wildlife Division staff, both local and adjacent county Conservation Agents, and Johnson county

Sheriff's Department. Patrols are effective with several tickets written for violations in the past. Enforcement of area regulations is a primary concern for all staff.

References:

Missouri Department of Conservation. (1998). Missouri Natural Heritage Database.

Missouri Department of Conservation. (n.d.). *Area and resource management policies and procedures manual*. Jefferson City, Missouri: Missouri Department of Conservation.

Missouri Department of Conservation. (2009). *Watershed and stream management guidelines for lands and waters managed by Missouri Department of Conservation*. Jefferson City, Missouri: Missouri Department of Conservation.

Missouri Department of Conservation. (2014a) *Missouri forest management guidelines voluntary recommendations for well-managed forests*. Jefferson City, Missouri: Conservation Commission of the State of Missouri.

Missouri Department of Conservation. (2014b). *Missouri watershed protection practice recommended practices for Missouri forests: 2014 management guidelines for maintaining forested watersheds to protect streams*. Jefferson City, Missouri: Conservation Commission of the State of Missouri.

Maps:

Figure 1: Area Map

Figure 2: Aerial Photo and Easements

Figure 3: Habitat Cover Map

Additional Appendices:

Appendix A. Hazel Hill Lake Public Comments

Figure 1: Area Map

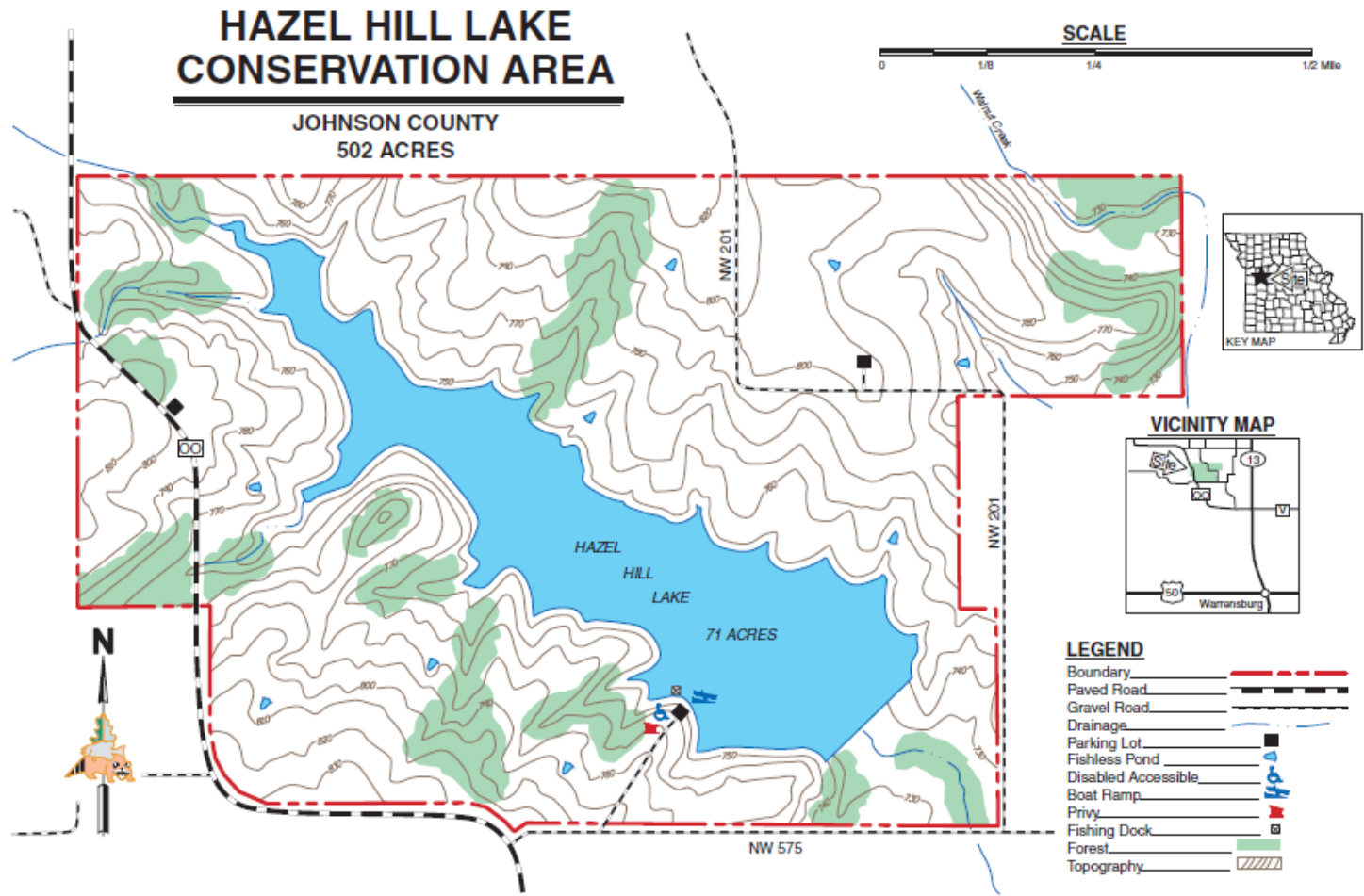


Figure 2: Aerial Photo and Easements

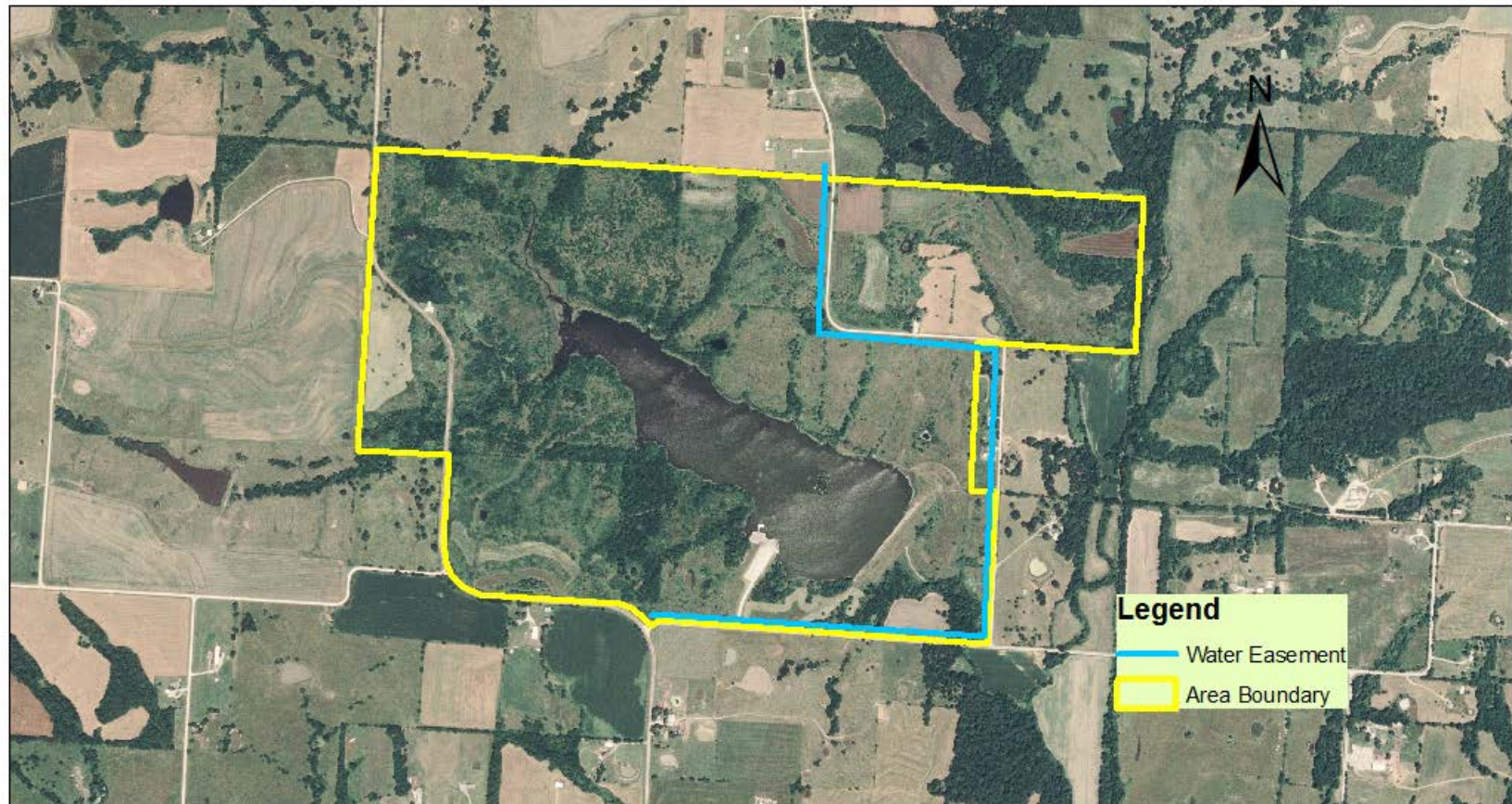
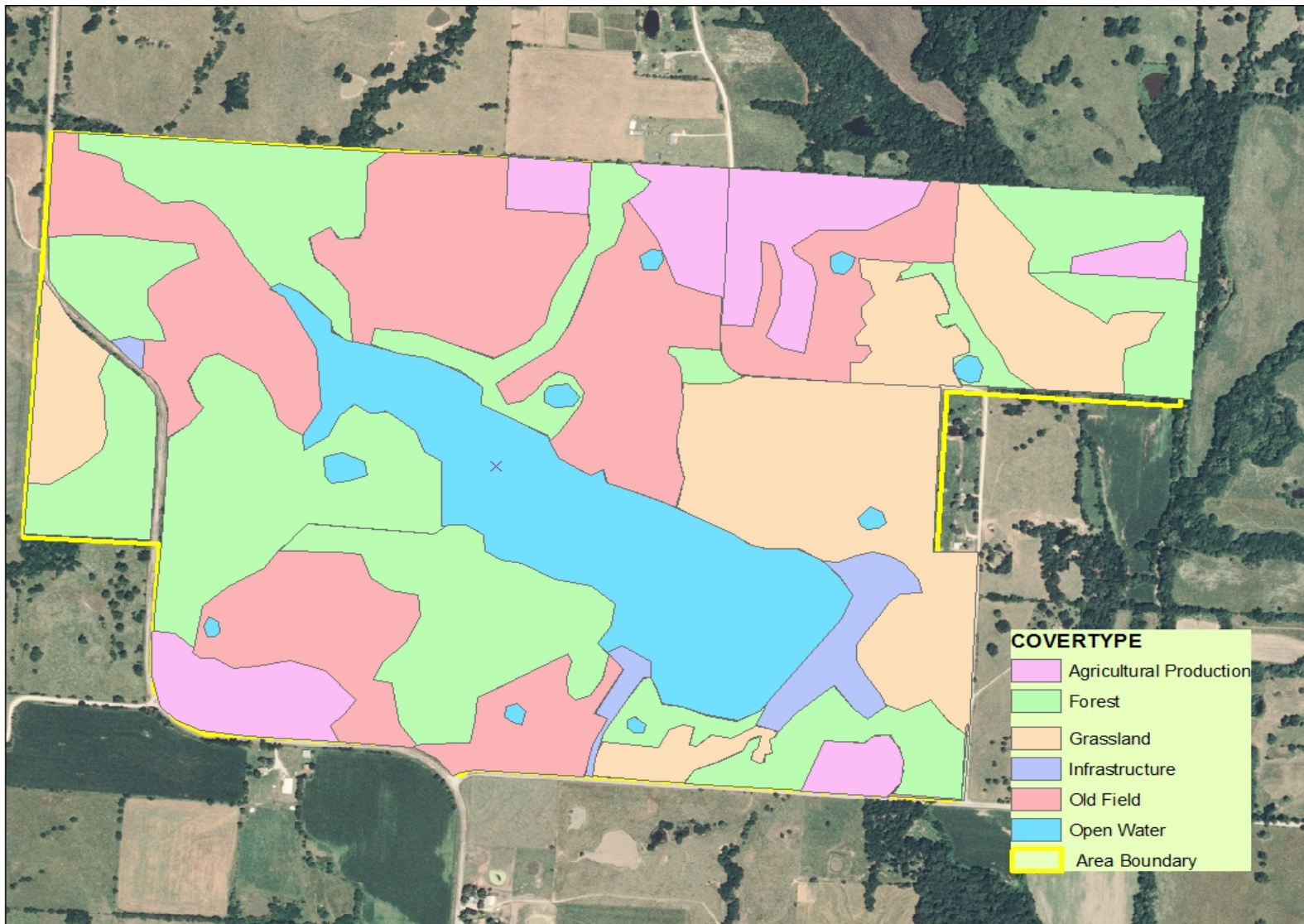


Figure 3: Habitat Cover Map



Appendix A. Hazel Hill Lake Area Management Plan Public Comments

Received during public comment period (September 1-30, 2015):

Bicycles should not be allowed in any natural area. They are inanimate objects and have no rights. There is also no right to mountain bike. That was settled in federal court in 1996: <http://mjvande.nfshost.com/mtb10.htm> . It's dishonest of mountain bikers to say that they don't have access to trails closed to bikes. They have EXACTLY the same access as everyone else -- ON FOOT! Why isn't that good enough for mountain bikers? They are all capable of walking....

A favorite myth of mountain bikers is that mountain biking is no more harmful to wildlife, people, and the environment than hiking, and that science supports that view. Of course, it's not true. To settle the matter once and for all, I read all of the research they cited, and wrote a review of the research on mountain biking impacts (see <http://mjvande.nfshost.com/scb7.htm>). I found that of the seven studies they cited, (1) all were written by mountain bikers, and (2) in every case, the authors misinterpreted their own data, in order to come to the conclusion that they favored. They also studiously avoided mentioning another scientific study (Wisdom et al) which did not favor mountain biking, and came to the opposite conclusions.

Those were all experimental studies. Two other studies (by White et al and by Jeff Marion) used a survey design, which is inherently incapable of answering that question (comparing hiking with mountain biking). I only mention them because mountain bikers often cite them, but scientifically, they are worthless.

Mountain biking accelerates erosion, creates V-shaped ruts, kills small animals and plants on and next to the trail, drives wildlife and other trail users out of the area, and, worst of all, teaches kids that the rough treatment of nature is okay (it's NOT!). What's good about THAT?

To see exactly what harm mountain biking does to the land, watch this 5-minute video: <http://vimeo.com/48784297>.

In addition to all of this, it is extremely dangerous: http://mjvande.nfshost.com/mtb_dangerous.htm .

For more information: <http://mjvande.nfshost.com/mtbfaq.htm> .

The common thread among those who want more recreation in our parks is total ignorance about and disinterest in the wildlife whose homes these parks are. Yes, if humans are the only beings that matter, it is simply a conflict among humans (but even then, allowing bikes on trails harms the MAJORITY of park users -- hikers and equestrians -- who can no longer safely and peacefully enjoy their parks).

The parks aren't gymnasiums or racetracks or even human playgrounds. They are WILDLIFE HABITAT, which is precisely why they are attractive to humans. Activities such as mountain biking, that destroy habitat, violate the charter of the parks.

Even kayaking and rafting, which give humans access to the entirety of a water body, prevent the wildlife that live there from making full use of their habitat, and should not be allowed. Of course those who think that only humans matter won't understand what I am talking about -- an indication of the sad state of our culture and educational system.

concerning forest, tree management, the locust trees on 201 rd. between 575 and the old Bush place should be cleared out and kept down!!!!

As a woman who loves fishing. I find it important to get little girls outdoors. There is so much more than Barbie they can enjoy. But it must be fun and enjoyable to them. My idea is a fairy hunt and short introduction to fishing..or separate. My house has woods behind it and all kinds of wildlife come into my yard. When having large family gatherings, in past I took the wee kids on a fairy hunt. As we tracked through the woods with a few dimes and a bit of sweet cake. (fairies love those)

We talked about the different wildlife, flowers, bugs. I had a few fairy cups placed around for them to put their dimes and sweets. You would not believe how many children have seen fairies ;-)

I want to put a few fairy houses about to make it more fun. After the wee girls could get a short intro to fishing. Or separate. Fairy hunts may seem silly, but the kids love them! They learn about the turkeys, deer, bunnies and birds that come into my yard. This is for young children. They learn dangerous plants. Poison oak! They learn to climb over logs and see different bugs.

Our 4-H club has cleaned the cemetery on the premises of this land parcel/state park several times. Our past experience was so horrifying that we have not been back. The cemetery is in awful shape and the state has done ANYTHING to help with dignity of the people buried here. It is grown up, and no preventative maintenance has ever been done. We ruined 2 weed eaters, one chainsaw and had children with poison ivy for six weeks(and numerous dr. bills/shots) all to volunteer our our time to help put this cemetery back in the shape it should be. For respect of the families around, please consider working on this cemetery. Even several applications of brush killer a year would be better than nothing! ALSO - if you have not noticed, there has been quite a bit of graffiti done at the Hazel Hill location. We are adjacent land owners and have noticed this summer that some one or some people have been there and spray painted inappropriate things on signage, road signs, etc. Perhaps a visit at night by a Conservation Agent would be something to consider? Thank you

Put in a boat ramp-so one can tie up their boats without dragging them up on the rocks. It would not need to be fancy. Also it would be nice to have a couple picnic tables out at the lake also.

Turkey Kern area south of Knob Noster-does not get the boat traffic as Hazel Hill Lake-but a nice boat dock.

In an expansion of your listed of making the area(s) attractive and accessible to citizens, I suggest the development of additional gravel roads with wildlife viewing areas, similar to other areas that have roadways which allow people with disabilities to enjoy viewing wildlife, forests, wetlands and nature. Eagle Bluffs, Dianna Bend, and other areas are very good examples of what I am describing. With two disabled persons in my household, opportunities to view wildlife from just the existing parking lots is limited.

Thank you for considering this idea for the area and any others where feasible.

Sincerely, a life-long MDC supporter, former conservation commission agent (8 years).